

**REMEDIAL ACTION REPORT  
FOR  
THE ALTERNATE WATER SUPPLY  
AMERICAN THERMOSTAT SITE  
CATSKILL, GREENE COUNTY, NEW YORK  
DECEMBER, 1992**



**REGION II  
ALTERNATIVE REMEDIAL CONTRACTING STRATEGY (ARCS)  
FOR  
HAZARDOUS WASTE REMEDIAL SERVICES**

**EPA Contract No. 68-S9-2001**

**EPA WORK ASSIGNMENT NO. 023-2R77**

**TAMS CONSULTANTS, Inc.**

488213



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- A Monthly Construction Progress Reports
- B Hydrostatic Pressure and Leakage Tests
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- D Certification of Completion

## 1. INTRODUCTION

The American Thermostat Site is located in a rural residential area in the Town of Catskill, Green County, New York. The AT Site is approximately 30 miles southwest of Albany, New York and 5 miles west of the Village of Catskill, New York.

The AT Site is approximately 8 acres in area. The AT Site is bordered on the north and south by Route 23B and Route 23, respectively. A residential property borders the site on the west and property owned by the State of New York borders the site on the east. The site is not fenced and access to the AT Site is from Route 23B.

The landform within the vicinity of the AT Site may be characterized as gently rolling foothills of the Catskill Mountains which are deeply incised by stream channels. The AT Site is located on a slight ridge overlooking the Catskill Creek Valley. The on-site ground surface elevations are relatively uniform but fall quickly to the Catskill Creek to the north and to two small tributaries on the east and west. Surface drainage follows the ground surface elevations with drainage to the Catskill Creek and its tributaries.

The site contains the former AT Building and several smaller structures. There are several underground structures including three sanitary waste disposal systems, two coolant water disposal discharge lines and a roof drain.

The area surrounding the AT Site is characterized as rural-residential. There are a few full time residences, vacation homes and several small businesses. All the residences and businesses within the immediate vicinity of the AT Site relied on groundwater for their water supply.

The American Thermostat (AT) Plant was developed by the American Thermostat Corporation for the assembly of thermostats for small appliances. Site development began in 1954 and the plant was in continuous operation until its closure in 1985.

In the plant operation, a series of chemicals including machine oils, lubricants, and organic solvents such as tetrachloroethene (PCE) and trichloroethene (TCE) were used within the manufacturing process to operate and clean the plant machinery and parts. During the 1960's and 1970's, waste PCE and TCE liquid and sludge were poured down drains inside the building septic systems and dumped outside on the plant grounds for dust control. In March 1981, two AT employees were observed dumping solvents on plant property. This led to investigations into the company's waste handling practices by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Attorney General's Office.

During April and May 1981, water samples were collected from several residential wells in the vicinity of the AT site by the New York State Department of Health

(NYSDOH) and NYSDEC. The analyses of the samples indicated the presence of TCE and PCE in five wells. The affected residents were advised by NYSDOH not to use their well water for cooking or drinking purposes. Several law suits were filed by the plant's neighbors in late 1981.

Because of the presence of high levels of PCE in several nearby wells, AT began supplying bottled water to local residents in April 1982. By November 1982, AT had installed carbon filters on its own well and the five affected wells. The nearest neighbor was connected to AT's water system.

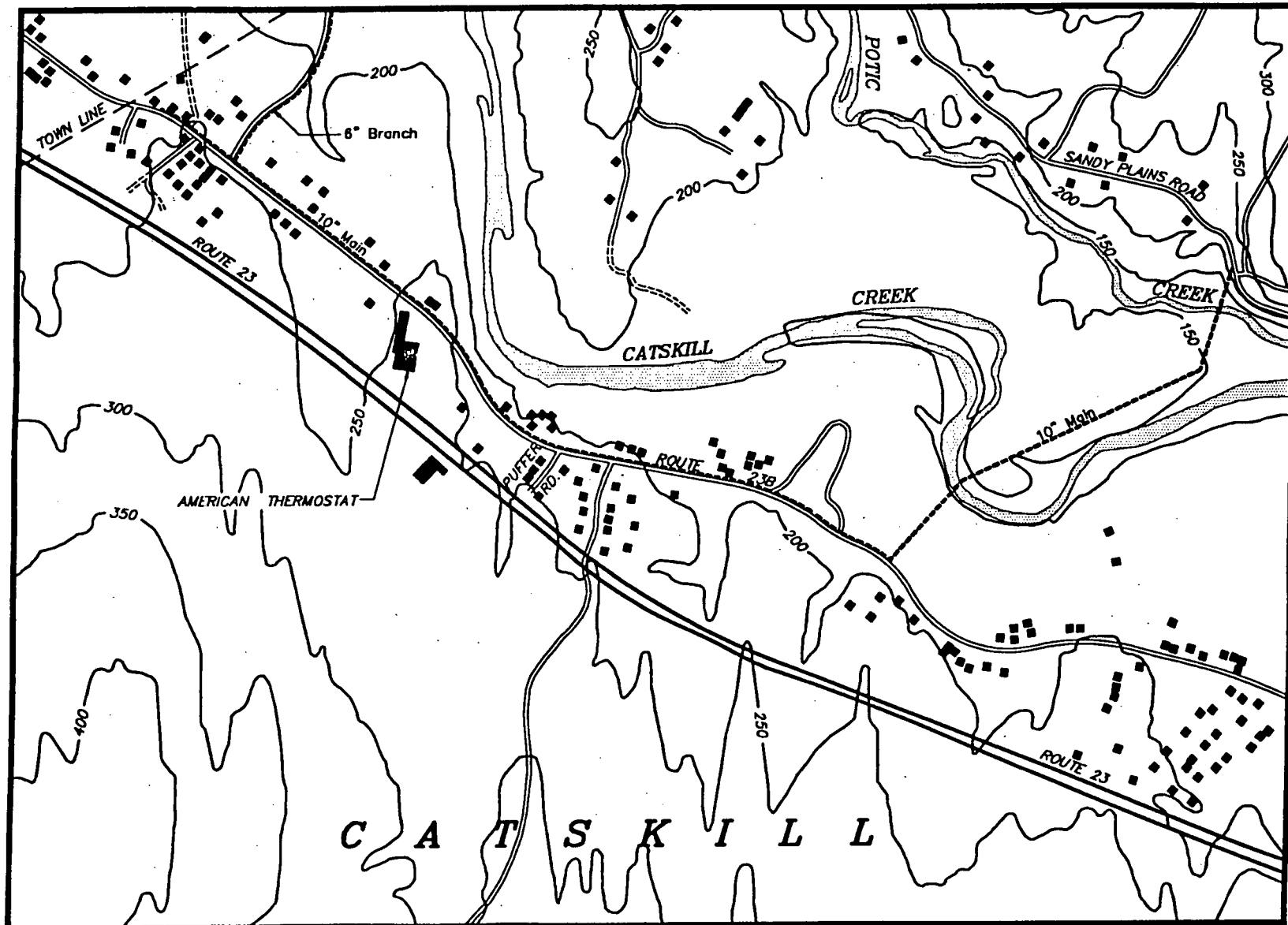
In February 1983, New York State entered into an interim consent order with AT and Amro Realty Corporation (property owner) in which the companies agreed to clean up the site and its surrounding, to supply bottled water to the five affected residences for cooking and drinking, and to install, monitor, and maintain carbon filter systems for these residences. The order also stipulated that two groups of bordering private wells had to be monitored to determine whether any contamination had spread beyond the original affected area.

In May 1985, AT ceased operations. Since June 1985, the USEPA has been sampling wells in the area and has been maintaining the previously installed carbon filtration units. In addition, USEPA installed new carbon units on two contaminated private wells and installed air stripping systems on two highly contaminated wells.

In April 1986, NYSDEC requested that the USEPA assume responsibility for the operation and maintenance costs of the carbon filters that had been previously installed, and the installation and operation of airlift stripping systems at two existing wells. The stripping systems have treated, to date, over 7 millions gallons of contaminated groundwater. PCE concentrations have been reduced in the nearest residential well (R14) from a high of 131,000 to 25,000 parts per billion (ppb), and in the AT well from 3,200 to 400 ppb.

A Focused Feasibility Study (FFS) for an Alternate Water Supply was issued in November 1987 as the first operable unit for the AT site. The purpose of the FFS was to develop, screen, and evaluate various alternatives for a new water supply system for the affected and potentially affected residences at the AT site. In January 1988, the first Record of Decision (ROD) was signed, selecting the extension of the Village of Catskill's water supply to the affected and potentially affected residences.

In January 1988, the USEPA initiated the RI/FS to determine the nature and extent of contamination at and emanating from the AT site and to evaluate remedial alternatives. In May 1990, the Remedial Investigation/Feasibility Study (RI/FS) report was released to the public. On June 29, 1990, the second ROD was signed, selecting Low Temperature Enhanced Volatilization (LTEV) for the treatment of the contaminated soil and sediments; pumping, air stripping, carbon adsorption, and re-injection for treating the contaminated groundwater and surface water; and decontamination of the building floor and off-site disposal of 18 waste



0 1000 2000 3000 FT  
SCALE

# WATER LINE EXTENSION TOWN OF CATSKILL

Prepared for: USEPA Region II  
Prepared by: TAMS Consultants, Inc.

FIGURE NO. 1

liquid drums remaining from the AT operation.

This Report covers the implementation of the Remedial Action for the first operable unit at the AT site: the Alternate Water Supply.

The Project consists of providing a water supply for the affected residents by means of an extension of the Village of Catskill water supply pipeline to the affected area. The new water line is tied to the existing pipeline in the vicinity of Sandy Plains Road in the Town of Athens, New York (Figure No.1). The new 10-inch pipeline is routed in a southwesterly direction towards Route 23B; it then follows the alignment of Route 23B to supply home along its route. The first stretch of the water line route, from Sandy Plains Road to Route 23B required two stream crossings, the Catskill creek and the Potic creek. The new water supply system is a gravity system and provides fire protection in the new Water District along Route 23B.

## **2. CHRONOLOGY OF EVENTS**

Upon signing of the ROD, the USEPA initiated negotiation with the Village of Catskill. An assessment of the water availability and of the state of the existing water supply system was prepared by EPA's contractor Ebasco Services, Inc. Based on the conclusion of this assessment and on the local water regulation, the USEPA and the Village of Catskill agreed that the USEPA would construct an Extension of the Water Supply System to provide water, including fire protection, to the residents affected or potentially affected by the groundwater contamination at the American Thermostat Site and the Village would provide the water, and operate and maintain the new water district.

On October 1990, the USEPA contracted TAMS to design the Extension of the Water Supply. Preliminary work included the selection of the appropriate route, the identification of required permits, right-of-way and easements. The presence of wetland along the selected route was investigated and none were found. TAMS also investigated the area for archeological findings. This work was subcontracted to Hartgen Archeological Associates, Inc. of Troy, NY; no significant findings were identified. The design of the water supply extension was completed in August 1991. The system was originally designed to provide fire protection in the new water district independently from the source of water, i.e., being capable of providing 750 gallons per minute for a period of two hours. To that effect a 90,000-gallon storage tank along with booster pumps were planned and designed. During negotiation between the Village and the NYSDOH this requirement was removed and TAMS was instructed to modified the design to provide water by gravity, thus eliminating the need for the storage tank and the booster pumps.

The Project was advertized in the Commerce Business Daily, and bidding documents were sent to twenty-three potential bidders on august 20, 1991. Eight prospective bidders attended the pre-bid site visit on September 10. Five sealed bids were received on September 20, 1991. F.C. Compagni Construction

Company, Inc. submitted the lowest total bid amount of \$1,179,333 and was selected as the lowest responsive, responsible bidder. The Subcontract was awarded on October 16, 1991. Due to the design modification construction plan and specification were finalized in November, and the Notice to Proceed was given on December 16, 1991.

The site mobilization was initiated in April 1992, and actual construction started on May 11, 1992. The construction was completed on November 6, 1992. The monthly construction progress report are included in Attachment A.

### **3. PERFORMANCE STANDARDS AND CONSTRUCTION QUALITY CONTROL**

Hydrostatic pressure and leakage tests for the water main were conducted on August 5, 1992. The tests were witnessed by the following parties:

Christos Tsiamis	-	USEPA Remedial Project Manager
Bill Cohn	-	Village of Catskill Representative
Joseph Yavonditte	-	NYSDEC - Hazardous Waste Remediation
Jean-Pierre Minois	-	TAMS Site Manager
Brian StJ. Styer	-	TAMS Contracts Manager
James Lombardo	-	TAMS Resident Engineer
Richard Henry	-	F.G. Compagni Superintendent

The tests were conducted in accordance with AWWA C 600. A narrative describing the tests is included in Attachment B.

Following the pressure and leakage tests the pipeline was disinfected in accordance with AWWA C 601. Four samples were collected and tested at the A.C. Stiefel Research Institute in Oak Hill (NY); results of the testing are included in Attachment C.

### **4. CONSTRUCTION ACTIVITIES**

The following is a list of the main work items that were required for the construction of the water supply in the Town of Catskill new Water District:

- 10-inch tap into existing 16-inch C.I. pipe;
- in wooded areas, clearing of a 20-foot wide corridor centered on the waterline alignment;
- trench installation of approximately 11,400 feet of 10-inch D.I. pipe, including two river crossings, 7,600 feet along Route 23B and 3,800 feet throughout wooded area;
- trench installation of approximately 1,000 feet of 6-inch D.I. pipe;
- trench installation of approximately 10,300 feet of 3/4-inch to 2-inch service piping;
- installation of miscellaneous gate valves, fire hydrants, back-flow preventer, air release valves, Corporation stops and curb ball valve stops; and,

- installation at 52 residences of metering devices with remote registers, piping, pressure reducing valves, valve boxes and similar related work in the basement or in an underground pre-cast concrete vault; and,
- providing connection between the new branch lines and the existing dwelling service.

## **5. INSPECTION**

On October 21, 1992 the final inspection of the water supply system was conducted to verify completion of the construction and to identify incomplete items of work. The inspection was conducted by:

Christos Tsiamis	-	USEPA Remedial Project Manager
Bill Cohn	-	Village of Catskill Representative
Joseph Yavonditte	-	NYSDEC - Hazardous Waste Remediation
Gary Litwin	-	NYSDOH - Environmental Exposure Investigation
Richard Fedigan	-	NYSDOH
Jean-Pierre Minois	-	TAMS Site Manager
Brian StJ. Styer	-	TAMS Contracts Manager
James Lombardo	-	TAMS Resident Engineer
David Compagni	-	F.G. Compagni Project Manager
Richard Henry	-	F.G. Compagni Superintendent

At the time of the inspection thirteen (13) residences had been connected with a water meter installed. The remaining (39) residences were all connected by November 6, 1992.

## **6. CERTIFICATION THAT REMEDY IS OPERATIONAL AND FUNCTIONAL**

A certification that the water supply system was completed by Compagni Construction, Inc., as specified by TAMS Consultants, Inc. and approved by NYSDOH is included in Attachment D.

## **7. OPERATION AND MAINTENANCE**

An Operation and Maintenance Manual for the Water Supply Extension was prepared by TAMS Consultants, Inc. and submitted to the USEPA. Maintenance of the water supply extension will be assumed by the Village of Catskill.



## 8. SUMMARY OF PROJECT COST

### Construction:

Mobilization, Services and Demobilization	\$227,000
Tap into Existing Main	\$11,000
10-inch Pipe	\$317,000
6-inch Pipe	\$19,000
River Crossings	\$21,000
Service Piping	\$192,000
Fire Hydrants	\$26,000
Miscellaneous Valves	\$71,000
Water Meters and Service Connection	\$97,000
Rock Excavation	\$70,000
Asphaltic Concrete Pavement	\$123,000
Tree Removal	\$18,000

Total Construction Cost	\$1,192,000
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Water line Design	\$230,000
Oversight and Administration	\$466,000
Water Connection Fees	\$400,000
Easements (Attorney, Appraiser and Surveyer)	\$80,000

Total costs	\$2,368,000
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**ATTACHMENT A**  
**MONTHLY CONSTRUCTION PROGRESS REPORTS**

T A M S  
MONTHLY SITE REPORT

Subcontract No. 5223-01

Month APRIL 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) \$ 45,400.00

% complete (time) 2 WEEKS

Items completed this month: MOBILIZATION AT SITE

Projected work for next month: COMPLETE INSTALLATION OF  
10" WATER MAIN ALONG RTE 23B, START CLEARING FOR WATER  
MAIN IN WOODED AREA.

TAMS Comments: START OF PROJECT DELAYED APPROX 1 MONTH  
DUE TO NEGOTIATIONS OF PRICES FOR MODIFICATION NO.1

CONTRACT ACTIONS

<input checked="" type="checkbox"/> Modification	( ) CO	<input checked="" type="checkbox"/> TAMS	( ) RPM	<input checked="" type="checkbox"/> SB
<input type="checkbox"/> Revised Work Plan	( ) CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> SB
<input type="checkbox"/> Expenditure Limit	( ) CO	<input type="checkbox"/> TAMS		

ATTACHMENTS:

☐ Subcontractor monthly estimate  
☐ Payroll w/Statement for Compliance  
☐ Wage Interviews

☐ Subcontractor monthly update of Schedule  
☐ Narrative of Progress  
☐ Monthly Visitors Log  
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☐ Copy of Claims  
☐ Change Orders

# T A M S

## MONTHLY SITE REPORT

Subcontract No. 5223-01

Month MAY 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) \$ 294 301.09

% complete (time) 5 WEEKS

Items completed this month: INSTALLED 4317 LIN. FT.-10" DIAMETER WATER MAIN STARTING AT FORD TRAILER PARK AND LAYING WEST ALONG RTE 23 B. CLEARED RIGHT OF WAY ON McDONOUGH PROPERTY AND LOCATED TIE-IN POINT TO EXISTING 16" WATER MAIN.

Projected work for next month: COMPLETE 10" PIPE ON RTE 23B, START CLEARING FOR WATER MAIN IN WOODS AREA, TIE-IN TO 16" MAIN, INSTALL HYDRANTS.

TAMS Comments: FIRST ACTUAL DAY OF WORK - MONDAY, MAY 11, 1992  
LEDGE ENCOUNTERED STA 145 - 147 AND STA 173 - 177 SLOWING  
PROGRESS.

### CONTRACT ACTIONS

<input type="checkbox"/> Modification	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> sb
<input type="checkbox"/> Revised Work Plan	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> sb
<input type="checkbox"/> Expenditure Limit	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS		

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<input checked="" type="checkbox"/> Subcontractor monthly update of Schedule
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<input type="checkbox"/> Monthly Visitors Log
<input type="checkbox"/> Certificates
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# T A M S

## MONTHLY SITE REPORT

Subcontract No. 5223-01

Month JUNE 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) \$508,042.82 (49.5%)

% complete (time) 12/29 WEEKS (41.4%)

Items completed this month: INSTALLED 3783 LIN FT OF 10" DIAMETER WATERMAIN TO COMPLETE INSTALLATION ALONG RTE 23B AND ALONG THE FERDES EASEMENT TO CATSKILL CREEK. JUNE 23 COMPLETE TIE-IN TO EXIST 16" MAIN. COMPLETED CLEARING & GRUBBING ON BUTTS/BEERS EASEMENT. STARTED RESTORATION ALONG RTE 23B. COMPLETED INSTALLATION OF 6" WATERMAIN ALONG NICHOLSEN EASEMENT - TOTAL 915 LIN FT PIPE

Projected work for next month: CONTINUE RESTORATION ALONG RTE 23B. COMPLETE INSTALLATION OF 10" WATERMAIN ALONG BEERS/BUTTS EASEMENTS INCLUDING STREAM CROSSINGS AT POTTS & CATSKILL CREEKS. START SERVICE PIPING.

TAMS Comments: NEGOTIATION COMPLETED JUNE 19 TO ACQUIRE RIGHT OF WAY THROUGH BEERS FARM TO BUTTS/BEERS EASEMENTS. WATER LEVELS ON POTTS & CATSKILL CREEKS HIGHER THAN NORMAL DUE TO FREQUENT RAIN

### CONTRACT ACTIONS

<input type="checkbox"/> Modification	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> Sb
<input type="checkbox"/> Revised Work Plan	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> Sb
<input type="checkbox"/> Expenditure Limit	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS		

### ATTACHMENTS:

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# T A M S

## MONTHLY SITE REPORT

Subcontract No. 5223-01

Month JULY 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) 703 581.79 (68.6 %)

% complete (time) 7/29 WEEKS (58.6 %)

Items completed this month: INSTALLED 2924 UN.FT. 10" WATERMAIN TO COMPLETE SECTION FROM TIE-IN AT 16" MAIN THRU BEER/BUTTS INCLUDING STREAM CROSSINGS AT POTTS & CATSKILL CREEKS TO CLOSURE ON FEDELI EASEMENT. COMPLETED FILLING & PRELIMINARY TESTING OF ENTIRE 10" WATERMAIN. COMPLETED RESTORATION WORK ALONG RTE 23B AS FAR AS AMERICAN THERMOSTAT SITE. STARTED INSTALLING COPPER SERVICE PIPING - COMPLETE FROM PUFFER ROAD TO GOLSTEIN

Projected work for next month: COMPLETE FILLING AND HYDROTEST NEW WATERMAIN. CHLORINATE, FLUSH & TEST WATER MAIN. CONTINUE COPPER SERVICE PIPING

TAMS Comments: JULY 21 - VISIT BY RICHARD POPP - NYSDEC DURING CATSKILL CREEK CROSSING - COMPLAINT ABOUT TURBIDITY DOWNSTREAM.

### CONTRACT ACTIONS

<input type="checkbox"/>	Modification	<input type="checkbox"/>	CO	<input type="checkbox"/>	TAMS	<input type="checkbox"/>	RPM	<input type="checkbox"/>	Sb
<input type="checkbox"/>	Revised Work Plan	<input type="checkbox"/>	CO	<input type="checkbox"/>	TAMS	<input type="checkbox"/>	RPM	<input type="checkbox"/>	Sb
<input type="checkbox"/>	Expenditure Limit	<input type="checkbox"/>	CO	<input type="checkbox"/>	TAMS				

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# T A M S

## MONTHLY SITE REPORT

Subcontract No. 5223-01

Month AUGUST 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) 872,060.24 (85%)

% complete (time) 2 1/29 WEEKS (72.4%)

Items completed this month: COMPLETED FILLING, HYDROTEST, CHLORINATE AND FLUSH OF NEW WATERMAIN. CONTINUED COPPER SERVICE PIPING AND RESTORATION WORK. COPPER SERVICE PIPING TO SCHMIDT LOTS, LOT 14 & LOT 21, CAREY, TURAN, BRANLEY AND BERG REMAIN TO BE DONE.

Projected work for next month: COMPLETE COPPER SERVICE PIPING, COMPLETE RESTORATION WORK, START TIE-INS TO HOMES, INSTALL RIP RAP IN POOL & CATSKILL CREEK.

TAMS Comments: RIP RAP AT POOL & CATSKILL CREEK DELAYED BY PROBLEM WITH P.E.C. TIE-INS TO HOMES DELAYED BY ADMINISTRATIVE PROBLEM BETWEEN E.I.P.A. AND VILLAGE OF CATSKILL

### CONTRACT ACTIONS

<input type="checkbox"/> Modification	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> SB
<input type="checkbox"/> Revised Work Plan	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> SB
<input type="checkbox"/> Expenditure Limit	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS		

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# T A M S

## MONTHLY SITE REPORT

Subcontract No. 5223-01

Month SEPTEMBER 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) 1,018,352.36 (90.6%)

% complete (time) 25/29 WEEKS (86.2%)

Items completed this month: COMPLETED INSTALLATION OF COPPER SERVICE PIPING. COMPLETED PAVING RESTORATION EXCEPT ON RTE 23B CROSSINGS. CONTINUED SEEDING & MULCHING RESTORATIONS.

Projected work for next month: COMPLETE ALL RESTORATION WORK. INSTALL PAVING AT 12 ROAD CROSSINGS ON RTE 23B. START FINAL TIE-INS TO HOMES IF RELEASED. START DEMOBILIZATION.

TAMS Comments: RIP-RAP AT POTIC & CATSKILL CREEKS DELETED FROM PROJECT. TIE-INS TO HOMES STILL DELAYED BY ADMINISTRATIVE PROBLEMS. A MODIFICATION HAS BEEN ISSUED FOR ADDED COST FOR RTE 23B PAVING AND TO ADD PRESSURE REDUCING VALVES AT EACH SERVICE.

### CONTRACT ACTIONS

<input checked="" type="checkbox"/> Modification	( ) CO	( ) TAMS	( ) RPM	( ) Sb
<input type="checkbox"/> Revised Work Plan	( ) CO	( ) TAMS	( ) RPM	( ) Sb
<input type="checkbox"/> Expenditure Limit	( ) CO	( ) TAMS		

### ATTACHMENTS:

<input type="checkbox"/> Subcontractor monthly estimate
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<input checked="" type="checkbox"/> Subcontractor monthly update of Schedule
<input type="checkbox"/> Narrative of Progress
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<input type="checkbox"/> Change Orders



# T A M S

## MONTHLY SITE REPORT

Subcontract No. 5223-01

Month OCTOBER 1992

Site AMERICAN THERMOSTAT, CATSKILL, N.Y.

% complete (dollars) 1,191,732.49 (100%)

% complete (time) 100%

Items completed this month: COMPLETED REPAVING 13 ROAD CROSSINGS ON RTE 23 B. COMPLETED ALL RESTORATION WORK. COMPLETED TIE-IN OF WATER TO 52 RESIDENCES. COMPLETED DEMOBILIZATION

Projected work for next month: JOB COMPLETE

TAMS Comments: INSPECTION BY EPA-DOH-DEL-TAMS ON OCT 21 FOR ACCEPTANCE. OCT 15 RELEASE BY VILLAGE TO TIE-IN RESIDENCES. SERVICES ADDED AT MALLIA & CULVERT INN. 100% CONNECTIONS OF ALL RESIDENCES IN NEW DISTRICT.

### CONTRACT ACTIONS

<input type="checkbox"/> Modification	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> Sb
<input type="checkbox"/> Revised Work Plan	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS	<input type="checkbox"/> RPM	<input type="checkbox"/> Sb
<input type="checkbox"/> Expenditure Limit	<input type="checkbox"/> CO	<input type="checkbox"/> TAMS		

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**ATTACHMENT B**

**HYDROSTATIC PRESSURE AND LEAKAGE TESTS**

**TOWN OF CATSKILL WATER DISTRICT**  
**HYDROSTATIC PRESSURE AND LEAKAGE TESTS**  
**OF 10" AND 6" WATERMAIN**

Installation of the new watermain was started on May 13, 1992 and completed on July 22, 1992. Filling and preliminary testing were completed from July 23 to August 4, 1992.

The formal hydrotest for acceptance was conducted on August 5, 1992. The line was tested in 3 sections as follows:

**Test No. 1**

- 3600 lin ft of 10" from tie-in at existing 16" watermain to Rte 23 B.

Test Started 10 AM  
Test Pressure 216 psi  
Pressure Lost 5 psi

Completed 12 AM  
Observed Leakage 1.5 gal

The test pressure of 216 psi was established by correcting for the difference in elevation from test pump location at the 16" tie-in to the end of the line at Rte 23B.

Elev at 23B	185
Elev at Tie-in	<u>145</u>
Diff in Elev	40 ft $\approx$ 16 psi

Specified Test Pressure  $200 + 16 = 216$  psi.

Allowable leakage was determined by AWWA C 600 - 87, Para 4.1.6. The calculations are shown on document No. 3 Hydrotest Data Sheet. Allowable leakage was 3.82 gal per hour. At the completion of the test the gage read 211 psi. It took 1.5 gallons of water to pressurize the line back to the 216 psi test pressure. This observed loss of 1.5 gallons in two hours was well below the allowable.

**Test No. 2**

- 7325 lin ft of 10" from the start of the line on Rte 23B to the end of the line on Rte 23 B near the Cairo town line.

Test Started 1:43 PM  
Test Pressure 221 psi  
Pressure Lost 0 psi

Completed 3:43 PM  
No Observed Leakage

The test pressure of 221 psi was established by correcting for the difference in elevation from the test pump location at the start of the line on 23B to the end of the line.

Elev at End	235
Elev at Pump	<u>185</u>
Diff in Elev	50 $\approx$ 21 psi

Specified Test Pressure  $200 + 21 = 221$  psi

Allowable leakage was determined by AWWA C 600 - 87, Para 4.1.6, the calculations are shown on Document No. 3 Hydrotest Data Sheet. Allowable leakage was 7.78 gal per hour. No leakage was observed at the completion of the two hour test and there was no loss of pressure on the test gage.

### Test No. 3

- 915 lin ft. of 6" from Rte 23B north along the NicholSEN easement.

Test Started 5:30 PM  
Test Pressure 200 psi  
Pressure Lost 5 psi

Test Completed 7:30 PM  
Observed Leakage 0.08 gal

There was no need for test pressure adjustment due to elevation differences since the test pump was located at Rte 23B which was the high point on the line.

Allowable leakage was determined by AWWA C 600 - 87, para 4.1.6, the calculations are shown on Document No. 3 Hydrotest Data Sheet. Allowable leakage was 0.58 gal per hour. The gage lost 5 psi pressure during the test which required 0.08 gal of water to reestablish the 200 psi design pressure. This was well below the allowable.

In summary, all three tests were well within AWWA C 600 - 87 limits for leakage and the installation was accepted.

**ATTACHMENT C**  
**LABORATORY TEST REPORTS**



A. C. STIEFEL RESEARCH INSTITUTE, INC., OAK HILL, N.Y. 12460  
New York State Certified Environmental Laboratory (I.D. # 10149)

LABORATORY REPORT

Report to:

Invoice to:

COMPAGNI CONSTRUCTION

48 GRANT STREET

CORTLAND NY 13045

SAMPLE (SRI FILE # 23017 ): PUBLIC RESERVOIR, TREATED--chlorine

Collected by <u>RICHARD HENRY</u>	Source/Owner	Sample Point	Received:
Date <u>8-18-92</u> Time <u>11AM</u>	CATSKILL	METER VAULT <u>SAMPLE #1</u>	Date <u>8-18-92</u> Time <u>1:50PM</u>
Test Requested	Method	Result	Public Only
Total Coliform/E. Coli (Public)	<u>Lab. 9h</u>	<u>Absent / Absent</u>	Notified _____
Fecal Coliform			Date _____ Time _____
Standard Plate Count			Completed Test _____
Total Coliform/E. Coli (Private)*			

Following ratings refer to single, private water samples only:

- ☒ Bacteriologically acceptable  
☐ Bacteriologically unacceptable - Recommend: disinfect/submit new sample

No applicable standards exist for single samples. Rating is based upon final compliance level, multiple-check sample tests for the presence or absence of coliforms (EPA, 54 CFR, Parts 141-142, 1989; NYS DOH, 10/24/90).

Sample tested by: AKW Date: 8/18/92

N.B. REF.: BT- 792-69

Report released by: Nadia Culotta

Date of release: 8/21/92



STIEFEL

A. C. STIEFEL RESEARCH INSTITUTE, INC., OAK HILL, N.Y. 12460

New York State Certified Environmental Laboratory (I.D. # 10149)

## LABORATORY REPORT

Report to:

Invoice to:

COMPAGNI CONSTRUCTION

48 GRANT STREET

CORTLAND NY 13045

SAMPLE (SRI FILE # 23018)

PUBLIC RESERVOIR, TREATED--chlorine

collected by RICHARD HENRY

Source/Owner

Sample Point

Received:

Date 8-18-92 Time 11AM

Village of Catskill

SAMPLE #2 TO LINE at  
STA 195 & 15

Date 8-18-92 Time 1:50PM

Test Requested	Method	Result	Public Only
Total Coliform/E. Coli (Public)	PABM	Absent / Absent	Notified
fecal Coliform			Date Time
Standard Plate Count			Completed Test
Total Coliform/E. Coli (Private)*			

Following ratings refer to single, private water samples only:

) steriologically acceptable

) bacteriologically unacceptable - Recommend: disinfect/submit new sample

) applicable standards exist for single samples. Rating is based upon final compliance level, multiple-check sample  
sts for the presence or absence of coliforms (EPA, 54 CFR, Parts 141-142, 1989; NYS DOH, 10/24/90).Sample tested by: RAW

Date

8/18/92

N.B. REF.: BT-

292-69

Report released by: Richard Henry

Date of release:

8/21/92



A. C. STIEFEL RESEARCH INSTITUTE, INC., OAK HILL, N.Y. 12460

New York State Certified Environmental Laboratory (I.D. # 10149)

### LABORATORY REPORT

Report to:

Invoice to:

COMPAGNI CONSTRUCTION

48 GRANT STREET

CORTLAND NY 13045

SAMPLE (SRI FILE # 23019) : PUBLIC RESERVOIR, TREATED--chlorine

Collected by <u>Richard Henry</u>	Source/Owner	Sample Point	Received:
Date <u>8-18-92</u> Time <u>11AM</u>	<u>VILLAGE OF CATSKILL</u>	<u>SAMPLE #3-FIRST</u> <u>HYDRANT-6" LINE</u>	Date <u>8-18-92</u> Time <u>1:50P</u>
Test Requested	Method	Result	Public Only
Total Colliform/E. Coll (Public)	<u>PABOTH</u>	<u>absent / absent</u>	Notified
Fecal Colliform			Date _____ Time _____
Standard Plate Count			Completed Test
Total Colliform/E. Coli (Private)*			

\*Following ratings refer to single, private water samples only:

☒ Bacteriologically acceptable

( ) Bacteriologically unacceptable - Recommend: disinfect/submit new sample

No applicable standards exist for single samples. Rating is based upon final compliance level, multiple-check sample tests for the presence or absence of coliforms (EPA, 54 CFR, Parts 141-142, 1989; NYS DOH, 10/24/90).

Sample tested by: WDA Date 8/18/92

N.B. REF.: BT- 292-69

Report released by: Madia C. Latta

Date of release: 8/21/92



**ATTACHMENT D**  
**CERTIFICATON OF COMPLETION**



**F. G. COMPAGNI CONSTRUCTION COMPANY, INC.**  
**GENERAL CONTRACTORS**

48 GRANT STREET  
CORTLAND, NEW YORK 13045  
TEL: (607) 753-1690  
FAX: (607) 753-7002

**CERTIFICATION OF COMPLETION**

I HEREBY CERTIFY THAT THE NEW GRAVITY FLOW WATER SUPPLY SYSTEM INSTALLED FOR THE VILLAGE OF CATSKILL TO SERVE CUSTOMERS IN THE VICINITY OF THE AMERICAN THERMOSTAT SUPERFUND SITE ON ROUTE 23B, GREENE COUNTY, CATSKILL, NEW YORK HAS BEEN CONSTRUCTED IN CONFORMITY WITH THE PLANS AND SPECIFICATIONS BY TAMS CONSULTANTS, INC EPA CONTRACT NO. 68-S9-2001, APPROVED BY THE STATE OF NEW YORK DEPARTMENT OF HEALTH, ALBANY REGION, ON JUNE 2, 1992, REFERENCE LOG NO. 8174-5 AND IS 100% COMPLETE AS OF OCTOBER 21, 1992.

Signed Jeffrey R. Wright Dated: 11/6/92  
Jeffrey R. Wright PE  
New York Reg. No. 62900-1



A. C. STIEFEL RESEARCH INSTITUTE, INC., OAK HILL, N.Y. 12460

**New York State Certified Environmental Laboratory (I.D. # 10149)**

# LABORATORY REPORT

**Report to:**

Invoice to:

COMPAGNI CONSTRUCTION

48 GRANT STREET

CORTLAND NY 13045

SAMPLE (SRI FILE # 23020 ): PUBLIC RESERVOIR, TREATED-chlorine

collected by RICHARD HENRY

Date 8-18-92 Time 11AM

Source/Owner

VILLAGE OF CATSKILL

### Sample Point

2ND HYDRANT 6" LINE  
SAMPLE #4

Received:

Date 8-18-92 Time 1:50 PM

Test Requested	Method	Result	Public Only
Total Coliform/E. Coli (Public)	MPN/100ml	Absent / Absent	Notified _____
Fecal Coliform			Date _____ Time _____
Standard Plate Count			Completed Test _____
Total Coliform/E. Coli (Private)*			

Following ratings refer to single, private water samples only:

) bacteriologically acceptable

**Bacteriologically unacceptable - Recommend: disinfect/submit new sample**

5 applicable standards exist for single samples. Rating is based upon final compliance level, multiple-check sample  
sts for the presence or absence of coliforms (EPA, 54 CFR, Parts 141-142, 1989; NYS DOH, 10/24/90).

Sample tested by: ADA Date 8/18/92

N.B. REF.: BT-292-69

Report released by: Nadia Bluthack

Date of release: 8/24/92